

Classifying Numbers

Given the real numbers $\frac{1}{2}$, $\sqrt{2}$, 2, -0.22, $2.\bar{2}$ and -2, list those that are...

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|---------------------|-----------------------|
| 1. whole numbers | 2. integers |
| 3. rational numbers | 4. irrational numbers |

Write true or false. If the statement is false, give an example where it does not hold.

5. Every integer is a rational number.
6. Every rational number is an integer.
7. Every real number is either rational or irrational.
8. Every real number can be expressed exactly as a terminating or repeating decimal.

Classify each number in as many ways as possible.

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|--------------------|-------------------|---------------------------|-------------------------|
| 9. -23 | 10. -5.1 | 11. $\sqrt{3}$ | 12. $\sqrt{2}$ |
| 13. $\frac{2}{3}$ | 14. $\frac{3}{9}$ | 15. $-0.\overline{85}$ | 16. $-1.0\overline{63}$ |
| 17. $-\frac{5}{7}$ | 18. $\sqrt{25}$ | 19. $\frac{\sqrt{36}}{2}$ | 20. 1 |
| 21. 0 | 22. $-\pi$ | 23. 5.010010001... | 24. $\sqrt{28}$ |

Unit Analysis

Use unit analysis to convert the following units of measure. Round decimal answers to the nearest hundredths.

1 mile = 5280 feet

1 gallon = 4 quarts

1 pint = 2 cups

1 meter = 39.37 inches

1 quart = 2 pints

Assume 40 hr work week and 52 week year
for 11-12

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|--|--------------------------------------|
| 1. Change 6 miles to feet. | 2. Change 33 feet to yards. |
| 3. Change 66 inches to feet. | 4. Change 5 meters to inches |
| 5. Change 15 feet to meters | 6. Change 64 hours to minutes |
| 7. Change 56 hours to seconds | 8. Change 1,314,000 minutes to years |
| 9. Change 10 pints to quarts | 10. Change 3 gallons to cups |
| 11. Change \$35,000 per year to dollars per hour | |
| 12. Change \$8.25 per hour to dollars per year | |
| 13. Change 2 miles to yards | |